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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,709

09/06/2006

Jun Cheng

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EXAMINER

GUARINO, RAHEL

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

06/18/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,709	Applicant(s) CHENG ET AL.	
	Examiner Rahel Guarino	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/6/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 6-9 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,10,11 is/are rejected.
- 7) ☐ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/6/2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the **range of 50 to 150 words**. It is important that the **abstract not exceed 150 words** in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it is **over 150 words**.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 cites said “comparing **a measurement result** on the subcarrier”.

It is unclear whether the claim implies “**measurement result** on the subcarrier of the measurement step” or “is it a **new measurement result** on the subcarrier”.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1,2,5,10,11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann Jr. et al. US 2003/0161285 in view of Cho et al. US 7,386,277

Re claim 1, Tiedemann discloses a reception quality notifying method (204) comprising: a reception (202) step of receiving a multicarrier signal (para#40 lines 4-6, where it includes multicarrier (para#67 lines 1-4); a measurement step of measuring reception quality of the multicarrier signal on a subcarrier basis (para#37 lines 8-16);

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a generation step of comparing a measurement result on the subcarrier basis in the measurement step with a predetermined threshold value and performing format conversion on a comparison result to generate a plurality of reception quality data expressed by bits (para#37 lines 17-26); does not teach a selection step of selecting reception quality data with a smallest data amount from the plurality of generated reception quality data; and a transmission step of transmitting the selected reception quality data.

However, Cho discloses selecting (72) reception quality data with a smallest data amount from the plurality of generated reception quality data (col. 9 lines 63 to col. 10 lines 9); and a transmission (60) step of transmitting the selected reception quality data (col. 7 lines 29-35).

Therefore, taking the combined teaching of Cho and Tiedemann as a whole would have been rendered obvious to one skilled in the art to modify Tiedemann to select reception quality data with a smallest data amount from the plurality of generated reception quality data and a transmission step of transmitting the selected reception quality data for the benefit of reducing the timeslot of the appropriate MCS level (col. 10 lines 23-25).

Re claim 2, the modified invention as claimed in claim 1, wherein the plurality of reception quality data generated in the generation step include first reception quality data in which the comparison result is expressed by bits in ascending order of subcarrier numbers of subcarriers constituting the multicarrier signal (fig.6; selection order from the lowest to highest quality; col. 6 lines 59-65, and col. 7 lines 41-47; Cho),

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and at least one of second reception quality data in which subcarrier numbers of subcarriers with reception quality more than or equal to the threshold value are expressed by bits based on the comparison result and third reception quality data in which subcarrier numbers of subcarriers with reception quality less than the threshold value are expressed by bits based on the comparison result (col. 9 lines 1-13; Cho).

Re claim 5, the modified invention as claimed in claim 2, wherein the first reception quality data, the second reception quality data or the third reception quality data is provided with a different identification number expressed by bits in at least one of a beginning part and a last part (col. 9 lines 26-36, Cho). (Furthermore, it is inherent and well known in the art to have a reception quality different identification number expressed by bits in at least one of a beginning part and a last part.)

Re claim 10, Tiedemann discloses a radio communication terminal apparatus comprising (200): a receiver (202; para#40 lines 4-6) that receives a downlink multicarrier signal (para#67 lines 1-4); a measurer (204) that measures reception quality of the downlink multicarrier signal on a subcarrier basis (para#37 lines 8-16); a generator that compares a measurement result on the subcarrier basis in the measurer with a predetermined threshold value and performs format conversion on a comparison result to generate a plurality of reception quality data expressed by bits (para#37 lines 17-26); does not teach a selector that selects reception quality data with a smallest data amount from the plurality of generated reception quality data; and a transmitter that transmits an uplink multicarrier signal including the selected reception quality data.

However, Cho discloses selector (72) that selects reception quality data with a smallest data amount from the plurality of generated reception quality data (col. 9 lines 63 to col. 10 lines 9); and transmitter that transmits a transmission (60) step of transmitting the selected reception quality data (col. 7 lines 29-35).

Therefore, taking the combined teaching of Cho and Tiedemann as a whole would have been rendered obvious to one skilled in the art to modify Tiedemann to select reception quality data with a smallest data amount from the plurality of generated reception quality data and a transmission step of transmitting the selected reception quality data for the benefit of reducing the timeslot of the appropriate MCS level (col. 10 lines 23-25).

Re claim 11, the modified invention as claimed in claim 10 comprising (fig.1): a transmitter that transmits downlink multicarrier signals to the plurality of radio communication terminal apparatuses; a receiver (202) that receives uplink multicarrier signals including reception quality data indicating reception quality of the downlink multicarrier signals transmitted from the plurality of radio communication terminal apparatuses(para#40); a determiner (206) that determines formats of the reception quality data included in the uplink multicarrier signals for each of the plurality of radio communication terminal apparatuses (para#43); and an assignment determiner (208) that determines respective subcarriers to be assigned to the plurality of radio communication terminal apparatuses in accordance with the determined formats (para#41 lines 8-15, Tiedemann).

Allowable Subject Matter

7. Claims 6-9 are allowed.
8. Claims 3, 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rahel Guarino whose telephone number is (571)270-1198. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Payne David can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rahel Guarino/
Examiner, Art Unit 2611

/Chieh M Fan/
Supervisory Patent Examiner, Art Unit 2611